

2.0 FRAMEWORK FOR PLANNING

The following discussion briefly outlines the framework for the development and utilization of the Shasta County General Plan. Four interlocking components form this framework. They are:

- the natural environment
- the man-made or built environment
- the institutional environment
- the potential for environmental change.

The term "framework for planning" is used here because these four elements define basic planning opportunities and constraints which must be addressed by the Shasta County General Plan. Understanding and intelligently responding to this planning framework is essential to the short- and long-term success of the General Plan. The discussion below provides an introduction to the more detailed treatment of the components of this framework in the various Plan elements.

2.1 Natural Environment

The natural environment includes all factors in man's surroundings that are the product of natural rather than man-made forces and interactions. Major factors of the natural environment are:

- landforms
- water
- climate
- minerals
- soils
- vegetation
- wildlife

These factors are fundamental to the planning framework because they define the limits within which the man-made and institutional environments must operate.

Landforms

Shasta County is situated where the Central Valley of California meets the convergence of the Klamath and Coastal Mountain Ranges to the northwest and west, with the Cascade Mountain Range to the northeast and east. Elevations in the Central Valley area of Shasta County range between 400 and 700 feet. The Cascade Range divides the Central or Sacramento Valley region of the County from the Modoc Plateau situated in its northeast corner. In the interest of using common nomenclature, the Modoc Plateau will be referred to as the Fall River Valley. Approximate elevation of this valley is 3,300 feet.

Water

The landforms of Shasta County and their underlying geology exert a major influence on its surface and groundwater resources. The Central Valley and its southward flowing Sacramento River provide the drainage for all the major streams in the County - Squaw, Clear, Cow, Cottonwood, Battle, Clover, Bear, and Hat Creeks, and the Pit, Fall, and McCloud Rivers. Alluvium deposits in the Sacramento and Fall River Valleys define the only significant groundwater basins present in Shasta County; but there are also numerous "hard rock" groundwater basins of unknown productivity.

Climate

The landforms of Shasta County also play a role in determining its climate. The convergence of the mountains on either side of the Central Valley forms a funnel that concentrates precipitation near the upper end of the valley in periods of winter storms marked by south winds. The western mountains receive significant amounts of rain from air moving eastward off the Pacific, while the eastern mountains generally receive less precipitation. Temperature is closely related to elevation, with the warmest temperatures at lower levels. The length of the growing season also reflects this temperature pattern. Comparing the climates of the two major valley areas of the County, the Central or Sacramento Valley experiences a longer growing season and more rainfall than the Fall River Valley.

The two valley areas are located within different air quality basins: the Sacramento Valley Air Basin and the Northeast Plateau Air Basin. In the Sacramento Valley Basin, the potential for strong winter radiation inversions is high, resulting in stable atmospheric conditions.

Minerals

Shasta County is rich in mineral resources. Metallic minerals, including copper, gold, silver, sulphur, and zinc are found in the Klamath Mountains in western Shasta County. Alluvial sand and gravel is found along the Sacramento River and its tributaries. Other aggregate resources include crushed stone resources found in the hills in Mountain Gate and Keswick. Limestone, used to make Portland cement and aggregate, is also found in Mountain Gate. Eastern Shasta County has extensive resources of diatomaceous earth surrounding Lake Britton, as well as basalt and volcanic cinders near Brush Mountain, Black Butte, and other eastern foothill and mountain locations.

Soils

Landform, climate, and other factors determine soil characteristics. Soil surveys of Shasta County cover areas outside of the National Forests and use a standard classification system ranging from Class I, soils with few limitations, to Class VIII, soils with limitations precluding their use for commercial agricultural purposes. Of those areas of the County which have been surveyed, the majority are Class III and worse. Areas with Class I or II soils are located almost exclusively in the Sacramento and Fall River Valleys.

Vegetation

Landform, climate, soils and other factors are responsible for the natural vegetative cover of Shasta County. Coniferous forest is the predominant vegetation in the mountainous regions of the County, but in many areas this cover has been modified by man's activities. Extensive man-caused modification has also occurred in the Sacramento and Fall River Valleys. These areas are characterized by cultivated and pasture lands, oak woodlands, and grasslands. Rare and endangered plant species are found in Shasta County.

Wildlife

The major wildlife resources of the County include deer, waterfowl, and fish. Man's activities have also resulted in modifications in their habitat areas and thus their geographic distribution throughout the County. Deer winter range areas are found outside the Sacramento and Fall River Valleys in the lower elevations of the mountain areas of the County. The lower Sacramento River and lower Clear, Cottonwood, and Battle Creeks are important salmon and steelhead areas. Excellent trout streams include the Sacramento below Keswick Dam; McCloud, Pit, Fall and Rising Rivers; and Squaw, Kosk, Cow, Hat, Hatchet, and Battle Creeks. The Fall and Sacramento Rivers are also major

waterfowl habitat areas. There are numerous threatened and endangered animal species known to inhabit Shasta County. The premier trout fishery and habitat corridor of the upper Sacramento River continues to attract avid fishermen both nationally and internationally.

2.2 Man-made Environment

The man-made environment is defined as physical modification of the natural environment caused by man. Major factors of the man-made environment are:

- urban/suburban and rural residential areas
- transportation networks
- water impoundments
- cultivated areas.

Urbanized Areas

The areas of Shasta County which are the locations of urban and suburban development correspond closely to where the natural factors of landform, water, climate and soils provide opportunities for human habitation. Urbanization and its associated suburban development has occurred in the Sacramento, Fall River, and Burney Valleys where the level topography and soil conditions allow the relatively easy construction of residential, commercial, industrial, and other urban structures and their street circulation systems; surface and groundwater are available for urban water supply systems; and climatic, soil, and surface water conditions permit the construction of some type of urban wastewater treatment system.

Based on 2000 U. S. Census information, approximately 84 percent of the County's population lives in the Sacramento Valley area of the County in a north-south band of urban and suburban communities that include the City of Shasta Lake and the other incorporated cities of Redding and Anderson, and the unincorporated community of Cottonwood. Around this urban and suburban core are several smaller communities including Mountain Gate, Jones Valley, Bella Vista, Palo Cedro, Happy Valley, Centerville, and the Shasta/Keswick area. Slightly more than 5 percent of the County's population lives in unincorporated urban and suburban and rural communities in northeast Shasta County. These communities include Burney/Johnson Park, Fall River Mills/McArthur, Cassel, and Hat Creek.

Combined, the Sacramento Valley area and the northeast portion of the County account for approximately 90 percent of the County's population and represents the region's major public and private investments in the facilities and services required by urban development.

Transportation Network

The major element of the transportation network of Shasta County is the regional north-south transportation corridor through the Sacramento Valley. Contained within this corridor are Interstate 5, the Union Pacific Railroad, Redding Municipal Airport, hydroelectric power transmission lines, and the Sacramento River, an important transportation component of the Federal Central Valley Project. It must be noted that this corridor is a link in a much larger corridor running the entire length of the west coast through the United States from southwest Canada to northwest Mexico and connecting many metropolitan areas in California, Oregon, and Washington. Events occurring in these other areas will be transmitted via this north-south corridor and will inevitably affect Shasta County in general and its Sacramento Valley hinterlands, in particular.

The other major elements of the transportation network are State Route 299E, connecting the Sacramento and Fall River Valleys; State Route 44, connecting the Sacramento Valley with Lassen Volcanic National Park; and State Route 89, which links the Park with the Fall River Valley. In general, this transportation network does and will continue to reflect factors in the natural environment, most directly topography and climate.

Water Improvements

Many of the surface water resources of Shasta County have been impounded by man for a variety of purposes, including flood control, power generation, domestic and agricultural water supply, and recreation. The dominant natural factors here are surface water and topography. Major improvements and associated facilities are Shasta Lake, Whiskeytown Lake, the Anderson-Cottonwood Irrigation District (ACID) Diversion Dam and canal, Keswick Lake, the Pit River Dams, Lake McCloud, and Big Lake. There are approximately 325 smaller reservoirs throughout the County.

Cultivated Areas

Cultivated areas of the County are defined as areas where man has altered the natural environment to produce food, fiber, and building materials. Cropland areas of the County are generally limited to the Sacramento and Fall River Valley areas and to the irrigated meadows of the Cascade Range. The Western and Eastern Upland areas located on either side of the Sacramento Valley are grazing areas. Timber harvesting is concentrated in the mountain areas.

Interaction of Natural and Man-made Environments

The physical interactions between factors of the natural and man-made environments provide the dynamics of the planning process. In order for this process to result in a successful plan, the nature of these interactions must be understood. Failure to achieve this understanding and then apply it to the planning process could result in a plan which is costly to implement, both to the private and public sectors, or creates an undesirable living environment at the expense of the natural environment, or both. It is the institutional environment of Shasta County, discussed below, which provides the context for reaching decisions concerning these relationships.

2.3 Institutional Environment

The factors of the institutional environment may be categorized as:

- social
- economic
- governmental

The following discussion of these categories focuses on the role of the institutions as mechanisms for formulating and expressing values regarding the use of the natural environment through the development of the man-made environment.

Social

The primary social factors of Shasta County are the family, the community organization, the workplace, the school, and the religious group. Frequently, various elements of these institutions overlap and their order of importance will vary from individual to individual. These institutions reflect fundamental social values which find expression in the types of communities and lifestyles desired by County residents. These desires have significant land use implications. These desires will vary from person to person according to age, income, education, recent residency, and other factors.

Economic

The economy of Shasta County is based on the natural environment and external economic influences and trends. Retail trade, education, health and social services, agriculture, outdoor recreation, and tourism are the major base industries of the County. An industry which is also based on the natural environment and is of major consequence is the division of land into lots for subsequent sale and eventual development. Given their dependence on the natural environment, each of these industries has a vested interest in its future. A key distinction, however, is that, agriculture, outdoor recreation, and tourism use the natural environment as a renewable resource, while the land division industry treats the natural environment as a consumable resource. This distinction also has critical land use planning and environmental implications.

Governmental

Government provides a mechanism for reconciling competing interests regarding the use of the natural environment. In Shasta County, government operates at three levels - local, State, and Federal.

At the local government level, the key actors are Shasta County and the incorporated cities of Anderson, Shasta Lake, and Redding. These are general, as opposed to special purpose, local governments, and they have direct legal authority over the planning and regulation of the use of lands within their jurisdiction. To an important degree, the planning and regulatory actions of the County and the three cities are dependent on the activities of special purpose local government agencies which indirectly affect land use decisions through the provision of services, such as water, sewer, or streets.

The State government operates at two different levels in Shasta County. One level is the exercise of direct control over lands it owns within the County, such as parks, wilderness areas, submerged lands subject to the public trust doctrine, and other resource and recreational facilities. The other, more active level operates through various State agencies concerned with transportation planning, air and water quality, solid waste management, hazardous and toxic materials, water resources, fish and wildlife resources, and coordination of State planning law through adoption of local general plans.

The Federal government is a major landowner in Shasta County and these lands make major contributions to the agricultural, forest, and tourist and outdoor recreation industries. Therefore, Federal policy regarding these lands has important implications for the economy of the County.

Interaction of Natural, Man-made, and Institutional Environments

The natural, man-made, and institutional environments define the overall framework within which the Shasta County General Plan must operate. The natural and man-made environments are concerned with the physical pattern of land use as the result of the interaction of natural and man-made factors. The institutional environment assigns values to these factors and provides a process for their concrete application in defining and achieving a desirable land use pattern. However, these interrelationships and environments are not static and will change over time.

2.4 Potential for Environmental Change

The planning framework for Shasta County will change in response to changes to the natural, man-made, and institutional environments. Some events may have a greater potential to impact the rate of environmental change than that now forecast for Shasta County. In any case, the most common barometer to assess the relative magnitude of environmental change is by reviewing the General Plan forecast of population growth.

The following discussion provides an outline of the assumptions which support the County's anticipated population growth to year 2025. The population growth discussion is followed by the presentation of ten (10) local factors which will likely influence change in Shasta County during the next twenty years. The General Plan does not directly consider influences from larger events, such as major lifestyle changes caused by new technologies, changing economic structures and conditions, global atmospheric changes, immigration policy, or other large scale environmental or social factors.

Population Growth

The General Plan assumes that the population of Shasta County will continue to increase; therefore a major concern is by how much, where, and at what rate. Resolution of this issue will depend on a number of factors, most of which cannot be predicted. For example, will retired persons continue to migrate to Shasta County or will the County continue to provide a magnet for families and individuals seeking to escape California's major metropolitan areas? If these and other growth-inducing trends continue, the rate of population growth could accelerate with the County's population increasing substantially over the next twenty years. On the other hand, population growth could slow due to unknown social, economic, or environmental factors. Given these potential demographic influences, California Department of Finance (DOF) population projections for Shasta County have been included in TABLE PRE-4. During the 1980's and the 1990's projections prepared by the DOF proved to be useful indicators of population change. Therefore, the DOF projections can be used as a reliable population basis for long-range planning purposes.

The land use implications of population growth are challenging. More people mean that vacant and/or underutilized lands will be needed to provide sites for housing, employment, roads, and public facilities. To ensure that an adequate inventory of land will be available for these purposes, the Plan is predicated on providing at least a twenty year supply of developable land beyond current demand. The correlation of population forecasts with the designation of future land use patterns needs to be balanced so that an adequate supply of developable land is available to accommodate continued population increases. The Plan reiterates that actual population growth may fall short or exceed previous estimates. Accordingly the Plan incorporates a mechanism, described in the introduction to Part One, for periodically reviewing and adjusting the Plan and its developable land supply in response to actual growth.

TABLE PRE-4

ACTUAL AND PROJECTED POPULATION GROWTH 1970-2025

| | 1970 | 1980 | 1990 | 2000 | 2005 | 2010 | 2020 | 2025 |
|-------------------|--------|---------|---------|-----------------|----------------------|----------------------|----------------------|----------------------|
| POPULATION | | | | | | | | |
| 260,000 | | | | | | | | |
| 250,000 | | | | | | | | 246,500 ² |
| 240,000 | | | | | | | 231,000 ¹ | |
| 220,000 | | | | | | | | |
| 200,000 | | | | | | 203,500 ¹ | | |
| 180,000 | | | | | 185,700 ¹ | | | |
| 160,000 | | | | 165,200* | | | | |
| 140,000 | | | 148,000 | | | | | |
| 120,000 | | | | | | | | |
| 100,000 | | 115,715 | | | | | | |
| 80,000 | 77,640 | | | | | | | |
| 70,000 | | | | | | | | |

* 2000 Federal Census

¹ DOF projection, June 2001

² Shasta County projection 2004

Source: Shasta County Department of Resource Management, Planning Division, 2004

1. Ability to Maintain Quality of Life

The General Plan refers to a need to maintain the "quality of life" in Shasta County. Although this term is subjective, it incorporates a number of ideas that Shasta County residents believe to be meaningful in terms of amenities found in the region. In its most fundamental sense, quality of life is closely associated with a concept residents believe makes Shasta County a desirable place to live, including the makeup of its social and natural environment. Often, some quality of life factors such as better air quality, schools, civic and cultural opportunities, recreation and outdoor resources, lower crime rates, less traffic congestion, and water pollution and lower housing costs are based on

comparisons with other areas. Maintenance and improvement of the County's quality of life is a key concept and basis of the Plan. A serious decline or erosion in the quality of life would potentially impact many other key elements contained in the Plan. On the other hand, successful efforts to guide population growth and economic development in a manner that encourages a sense of community while protecting cultural and natural resources can help minimize potential declines in the quality of life.

2. Economic Growth in I-5 Corridor

The General Plan implicitly assumes the expansion of the local economy to accommodate the County's population growth. Most of this growth will likely occur adjacent to the Interstate 5 transportation corridor of Shasta County. This corridor offers rail, air, and highway transportation access to major market areas and provides ample land, water supply, and wastewater disposal resources. This vicinity also could accommodate substantial housing expansion, and is located within a unique and outstanding environmental setting. Economic growth within this corridor during the next twenty years could be a catalyst for substantial population growth. Economic and population growth within this corridor should be closely monitored to enable the Plan to be responsive to these factors.

3. Economic Development and the Pattern of Urbanization

In addition to the external economic influences of the I-5 corridor, economic expansion and development will also be influenced by local planning and business incentive programs. The success of the area's redevelopment agencies, enterprise zone, and other revitalization and promotional efforts will be measured, in part, on how well these programs contribute to a development pattern that enhances quality of life objectives. Economic development programs which strengthen and promote the enrichment of both town and rural community centers by expanding job diversity and pay scales consistent with housing affordability, in addition to geographic location consistent with community design and identity, will contribute to quality of life values. Conversely, economic development which contributes to increased traffic and air quality impacts, is not located within planned community centers, or does not promote efficient use of land and public services may result in a development pattern which could lessen the quality of life.

4. Auto Travel and Tourism

The tourist industry of Shasta County is highly dependent on the automobile to bring people to its recreation resources. It is difficult to forecast both the cost and availability of gasoline in the future, however, sharp declines in the supply and price of motor vehicle fuels could have distinct negative impacts on recreational travel. A sharp decline in the County's recreation tourist industry could require an expansion of other sectors of the County's economy and its accompanying land use.

5. Higher Education Facility

As the population of the northern Sacramento Valley increases, the need for an additional four-year university will likely increase. Some work towards this end occurred during the late 1980's and the mid 1990's. The impact of a four-year university in the Shasta County area may cause additional growth beyond that projected in the General Plan, but could also bring many community-wide benefits, if well planned. With special studies and the availability of developable land which meets the siting criteria for a four-year university, the South Central Region of the County offers the potential to attract such an educational institution.

6. Continued Expansion of Service/Retail Sales Oriented Economy

During the last several decades, the County's economy has experienced a steady increase in the service and retail trade sector as well as the government segment while the manufacturing sector has declined as an important component of the County's overall economy. For example, from 1990 to 2000, service-related jobs increased from 17.1% to 24.2% of Countywide employment, while manufacturing declined from 10.9% to 6.4% of the area's employment.¹

While part of this phenomenon can be attributed to national and statewide trends towards a service and retail sales oriented economy and a corresponding decline in basic manufacturing industries, Shasta County's trend towards increased reliance on the service/retail sales sectors is due, in large part, to several decades of population growth highlighted by strong in-migration of persons primarily from California's major urban regions. Included among these new residents are a significant share of individuals retired or semi-retired. This factor is important as retirement income tops the list of primary industry earnings for Shasta County at 17.9% followed by manufacturing at 17.2% as reported by William Fruth, economist, who prepared an analysis of the Shasta County economy in 2003 titled "Shasta County, California - A Historical, Comparative Economic Analysis". Among Fruth's conclusions is the finding that Shasta County is too dependent on income from retirees. Government entitlements made up 22.9% of the County's total income compared to the national average of 13.5%.

Additionally, in response to this in-migration, has come increased demands for a wide range of professional services such as medical care, an expanding array of social services, and a multiplicity of retail sales and their support services.

This trend tends to create a two tiered system of wages and salaries often resulting in better paying professional services jobs and low paying jobs in the retail sales sector. In both cases, the continued expansion of these employment sectors is closely related to the County's overall economic expansion and population growth and State and national economic cycles. Statistics compiled by William Fruth show that from 1982 to 1991, Shasta County ranked 114th nationwide in wage growth. From 1992 to 2001, the County had dropped to 277th in wage growth.

The trend towards a continued increase of the service/retail sales sectors without a corresponding expansion in the manufacturing sector will continue to be a challenge to County government officials as well as area business leaders to improve the jobs-housing balance to expand both economic and housing affordability opportunities in the County.

7. Development of Energy Resources

Shasta County has experienced significant development of its hydroelectric energy resources over the past twenty years and this development has contributed to shaping the existing land use pattern of the County. The potential of other energy resources in the County, including geothermal, biomass, and low-head or small-scale hydroelectric have been actively explored by major energy companies though such efforts have subsided during the past decade. Most of these exploration programs are of a proprietary nature and detailed information is generally unavailable. Development of the renewable and nonrenewable energy resources of Shasta County could have a noteworthy and beneficial impact on the County's economic growth and land use pattern if done in a manner sensitive to certain environmental constraints.

8. Additional Water Project Development

During the past decade, a number of Shasta County water purveyors have been forced to restrict water deliveries due to the combination of persistent drought conditions and increased service connections within their service areas. In response to these situations, some purveyors have relied on temporary interagency water transfers and groundwater supplies. These reoccurring shortages identify a need for a more concentrated and comprehensive approach to long-term water conservation, storage, and distribution throughout the Redding Water Basin if future economic expansion and population growth is to be accommodated.

In response to this need, Shasta County, in cooperation with other governmental agencies and area water districts, have embarked on an extensive study of the Redding Water Basin. Among the goals of this study is an effort to evaluate long-term groundwater water supplies and needs of various County agencies responsible for providing water to a growing population. As a result of this study, it is hoped that effective methods of water storage and distribution plus more efficient conservation efforts will be identified and implemented to help provide an adequate water supply for future generations.

9. Revitalization of Natural Resource Based Industries

The last several decades have witnessed fluctuating economic cycles in one or more of the key natural resource industries in the County. Noteworthy has been the decline in timber harvesting from historic levels. Among factors contributing to this change have been foreign competition and new and stricter environmental laws protecting endangered species.

Revitalization of the timber industry will be dependent on world softwood lumber markets, as well as reconciling forest management practices with environmental concerns. Also, the success of efforts to develop specialized wood products and related manufacturing industries will prove important to revitalization efforts in the timber industry.

Agriculture continues to serve as a critical segment of the Shasta County economy. In the future, agriculture will likely remain important due to: 1) continued cumulative losses of agricultural land elsewhere in California due to urbanization, salinization, and water shortages; and 2) increasing national and worldwide demand for a wide range of agricultural products produced in Shasta County.

Maintaining and enhancing quality fish and wildlife habitat is also critical to the recreation and tourism industry, and any adverse and prolonged decline of these resources could result in negative impacts on an otherwise vibrant industry. Efforts to protect and restore these habitats, including recent dam removal and stream restoration efforts on Clear Creek, will be important contributions to sustaining the long-term viability of the tourism and recreation industry.

From the origins of Shasta County until the end of World War I, metallic ore mining was a major industry. The subsequent decline of this industry since that time can be traced, in part, to major changes in international economics and regulation and litigation resulting from adverse environmental impacts. Changes in the world economy and the development of new extractive technologies designed to help mitigate these impacts may contribute to a revival of the metallic ore mining industry. The General Plan recognizes this potential and addresses this factor through implementation of realistic yet effective County development standards that respond to potential land use and environmental concerns.

10. Fiscal Impacts on Federal, State, and Local Government

Since the 1980's, the County has been faced with repeated budget challenges caused by higher service demands and diminishing discretionary revenue. Part of this problem is caused by a serious structural problem in how California supports State mandated programs required of County government. These mandated programs have commanded increasingly higher proportions of local discretionary revenue to be spent in two rapidly growing sectors, namely; social services, including welfare, and criminal justice; at the expense of other services such as emergency/public safety and land use planning. Also, increasing State and Federal mandates for education have adversely impacted the ability of school districts to maintain adequate revenue to meet expanded service requirements. Generally, local budget shortfalls have been most serious during significant and prolonged downturns of the State and/or national economy which have tended to correspond to significant local budget cutbacks and/or new Federal or State public service mandates for local government. This situation has left a number of California counties in a tenuous fiscal environment. Such scenarios heighten the need for a comprehensive understanding of fiscal impacts resulting from a designated land use pattern and related economic expansion level supported by the General Plan.

2.5 General Plan as a Response to Change

The previous discussion of the planning framework of the General Plan concluded with a brief discussion of how this framework could change over time. The purpose of this discussion was to identify factors or subjects which currently appear to pose the greatest potential for changing this framework. Over time, some of these factors should be deleted from this list and others added. It is important to keep in mind that the General Plan offers an enlightened method for anticipating changes before they occur and responding to them in a constructive manner that minimizes their adverse impacts and enhances their benefits. Past experiences in Shasta County and elsewhere have shown that responding to adverse change after the fact is not a viable alternative.

Footnote:

1. U.S. 2000 Census

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